

What is claimed is:

1. An internal teeth oscillating inner gearing planetary gear system, comprising:

a driving source-end pinion;

5 an external gear;

an internal gear having a slight difference in the number of teeth with the external gear;

a plurality of eccentric shafts oscillatingly rotating the internal gear;

10 eccentric shaft gears incorporated on the plurality of eccentric shafts, respectively; and

a transmitting external gear meshing concurrently with the eccentric shaft gears and the driving source-end pinion.

2. The internal teeth oscillating inner gearing planetary
15 gear system according to claim 1, wherein

the transmitting external gear is formed in a ring shape, and is rotatably supported by an outer circumference of any one of the external gear and an output shaft.

3. The internal teeth oscillating inner gearing planetary
20 gear system according to claim 2, wherein

external teeth of the external gear are formed by external pins inserted to be freely rotatable in circular grooves thereof, and the external pins are configured to serve as rollers of bearings for the transmitting external gear.

25 4. The internal teeth oscillating inner gearing planetary

gear system according to claim 1, wherein

the internal gears are incorporated in a number of two or more axially, and the transmitting external gear is located between any two internal gears thereof.

5 5. The internal teeth oscillating inner gearing planetary gear system according to claim 1, wherein

the plurality of eccentric shafts are located circumferentially at equal intervals.

6. The internal teeth oscillating inner gearing planetary
10 gear system according to claim 1, further comprising

a middle shaft, on which the driving source-end pinion is incorporated, provided in parallel to the output shaft at a position radially outward of the internal gear.

7. The internal teeth oscillating inner gearing planetary
15 gear system according to claim 1, wherein

a pinion incorporated on the input shaft directly meshes with the transmitting external gear as the driving source-end pinion.

8. A driving method of an internal teeth oscillating
20 inner gearing planetary gear system including an internal gear and an external gear, comprising the steps of:

driving a transmitting external gear by a driving source-end pinion and concurrently rotating a plurality of eccentric shaft gears meshing with the transmitting external gear, the
25 eccentric shaft gears being incorporated on a plurality of

eccentric shafts, respectively;

concurrently rotating the eccentric shafts, on which the respective eccentric shaft gears are incorporated, by rotation of the plurality of eccentric shaft gears; and

5 oscillatingly rotating the internal gear by the concurrent rotation of the plurality of eccentric shafts.